

Research concerning tourism-oriented town development

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Jundo Yoshida, Senior Researcher Hiroyasu Shingai, Head
Urban Facilities Division, Urban Planning Department

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1. Introduction

The national government of Japan has set a goal of nearly doubling the number of non-Japanese travelers visiting Japan to about 40 million people by 2020. Presently, the balance between demand and supply of the service of tourism infrastructures (e.g. traffic facilities, accommodations, and cultural facilities) are in tight balance in some regions and seasons. Given such circumstances, this study examined morning-type tourism to reduce the peak load on traffic infrastructures and other facilities that support the tourism industry.

2. Characteristics of standard time in Japan

Since the introduction of the fixed time method in 1872 in Japan, many social activities, including tourism activities, have basically been conducted based on the time indicated by clocks rather than the position of the sun. Since the national land is located toward the east of the Japan Standard Time Meridian, however, the time between sunrise to the start of social activities is long. When longitude momentum is defined as follows, and the condition of Japan is compared with conditions of other countries, the peculiarity of Japan becomes clarified (see the table).

$$\bar{M} = \frac{\iint_A R (\cos \phi) \lambda \cdot R d\phi \cdot R \cos \phi d\lambda}{\iint_A R^2 \cos \phi d\lambda d\phi} = \frac{\iint_A R \cos^2 \phi d\lambda d\phi}{\iint_A \cos \phi d\lambda d\phi}$$

Here;

\bar{M} : Longitude momentum ϕ : Latitude

R : Radius of Earth A : Target area (national

land)

λ : Difference in longitude from Japan Standard Time

Meridian

Table: Longitude momentums of many countries

Country	Longitude momentum [km]	[Reference] Number of international travelers accepted [10,000 people] (2014)*based on Tourism White Paper
Spain	1543.4	6,500
China	1488.6	5,562
France	949.1	8,370
South Korea	663.7	1,420
United States	363.0	7,476
Italy	268.2	4,858
Japan	-230.1	1,341

3. Business hours of tourist facilities and possible duration of sunshine

Given that many tourism activities are conducted within the possible duration of sunshine, the setup of standard time with which sunrise and sunset become earlier may be lowering the international competitiveness of the tourism industry in Japan. As shown in the figure, possible durations of sunshine in different countries and business hours of tourism facilities indicate the possibility that the time from sunrise to the start of business hours is longer in Japan compared to other countries; thus, tourist activities may be restricted. In addition, in especially crowded tourist spots, it is important to guide tourism demand to the time zone immediately after sunrise to reduce peak demand. To realize this, all stakeholders, such as the administrators of traffic and tourism facilities and those in the accommodation industry, need to cooperate with morning-type tourism.

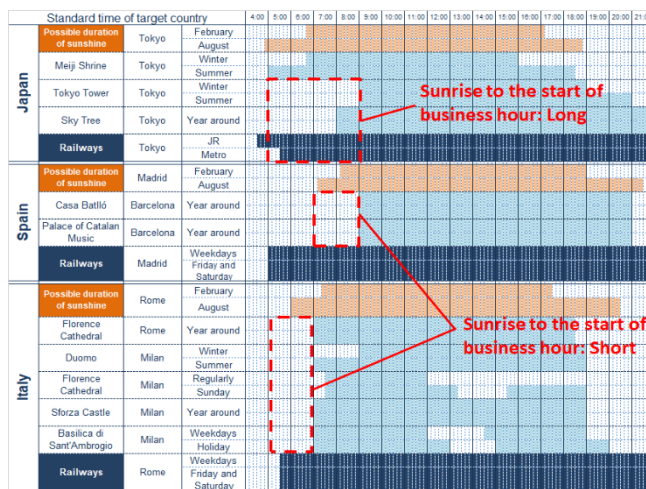


Figure: Possible duration of sunshine and business hours of tourism facilities

4. Future plans

This study is going to analyze the economic effects of morning-type tourism and examine measures to vitalize towns by guiding tourists to pedestrian routes.

☞ For detailed information

1) The 55th Research and Lectures of the Japan Society of Civil Engineers vol. 55, No. 06-08 “An observation concerning the leveling of tourism demand by dispersing activity hours of tourism.”